REMARKS/ARGUMENTS

The amendments set out above and the following remarks are believed responsive to the points raised by the Office Action dated October 12, 2007. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

The Pending Claims

Claims 3, 12, 13, and 19-31 have been canceled, and claims 1, 2, 4-11, 14-18, and 32-34 remain pending. Claims 35 and 36 are added by this amendment.

Claims 1 and 6 have been amended, and claims 35 and 36 have been added, to describe the invention more clearly. No new matter has been added, the basis for the amended claim language may be found within the original specification, claims and drawings.

Claims 1, 6, 35, and 36 are supported at, for example, paragraphs [0062], [0071], and [0072]. Entry of the above is respectfully requested.

The Office Action

For convenience, the following remarks will address the rejections in the same order they were raised in the Office Action.

Claims 1, 2, 4-11, 14-18, and 32-34 were rejected under 35 USC 102 as anticipated by, or, in the alternative, under 35 USC 103(a) as obvious over U.S. Patent 5,811,251 to Hirose et al. (hereinafter referred to as "Hirose et al.").

Claims 1, 2, 4-11, 14-18, and 32-34 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 5,198,505 to Sipsas et al. (hereinafter referred to as "Sipsas et al."); U.S. Patent 5,053,132 to Sirkar et al. (hereinafter referred to as "Sirkar et al."); U.S. Patent 5,130,024 to Fujimoto et al. (hereinafter referred to as "Fujimoto et al."); U.S. Patent 5,718,957 to Yokoe et al. (hereinafter referred to as "Yokoe et al."); U.S. Patent 5,158,680 to Kawai et al. (hereinafter referred to as "Kawai et al."); U.S. Patent 5,437,900 to Kuzowski et al. (hereinafter referred to as "Kuzowski et al."); and/or Hirose et al.

Each of these rejections is separately and respectfully traversed.

The Office Action states, based on Example 8, that Hirose et al. teaches a membrane "having a checkered pattern of hydrophilic regions through the *entire thickness and bulk of the membrane* produced by treatment of UV light after impregnating with hydrophilicing agents" (emphasis added).

This is simply incorrect. Example 8 of Hirose et al. must be read in the context of the entire patent, and, more particularly, in the context of the only portion of Hirose et al. referring to irradiation with UV, i.e., col. 4, lines 45-55. This portion of Hirose et al. discloses that the surface of the membrane is "coated with a monomer capable of crosslinking to form a hydrophilic polymer when irradiated with UV to induce said polymerization or copolymerization, with portions which should become said hydrophobic portions being shaded, or said surface is irradiated with UV through a shading mask during the formation of hydrophilic polymers or copolymers. The unshaded portion thus becomes substantially hydrophilic."

Additionally, Hirose et al. states (col. 4, lines 53-54) that the method summarized above is "described in U.S. Pat. No. 4,618,533". U.S. Patent 4,618,533, entitled "Porous Membrane Having *Hydrophilic Surface* and Process" (emphasis added), discloses a membrane formed from a hydrophobic substrate having a hydrophilic surface" (col. 1, lines 10-11; *see also*, col. 2, lines 15-19 referring to a porous membrane substrate "having a permanent coating grafted and/or deposited thereon").

Accordingly, Hirose et al. merely teaches irradiation with UV to provide surface modification, and thus fails to teach or suggest a microporous PTFE membrane "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid, the membrane having a CWST of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk" of the microporous PTFE membrane (claim 1) or a microporous PTFE membrane "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid, the membrane having a CWST of at least 26 dynes/cm (.26 erg/mm^2) through the thickness" of the microporous PTFE membrane, "wherein the microporous PTFE membrane is free of a coating" (claim 6).

While the Office Action refers to heat treatment of PVDF in Sipsas as the basis for a conclusion that it would be obvious that PTFE would also become hydrophilic by the heat treatment, and states the implication of the teaching of Sipsas is that heat treatment contributes towards making the membrance hydrophilic, this is simply incorrect. Sipsas does not teach that heat treatment contributes toward making the PVDF membrane hydrophilic. Rather, as set forth in Sipsas, e.g., col. 2, lines 42-50 ("it is believed that heating the hydrophobic membrane *before hydrophilization* alters the crystallinity of the polymer making up the membrane" (emphasis added)), Sipsas emphasizes that heating before a *separate* hydrophilic treatment alters the crystallinity of the PVDF membrane. The membrane disclosed by Sipsas must be made hydrophilic by another process, i.e., not by the disclosed heat treatment.

Pending independent claims 1 and 6 both recite microporous PTFE membranes "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid." Pending independent claim 1 further recites a CWST "of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk" of the microporous PTFE membrane. Pending independent claim 6 further recites a CWST "of at least 26 dynes/cm (.26 erg/mm^2) through the thickness" of the microporous PTFE membrane, "wherein the microporous PTFE membrane is free of a coating." None of the cited references, i.e., Sipsas et al, Sirkar et al., Fujimoto et al., Yokoe et al., Kawai et al., Kuzowski et al., and/or Hirose et al., suggest such membranes.

For example, Kuzowski et al. fails to teach microporous PTFE membranes "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid," and merely teaches surface modification (using rf gas plasma; e.g., col. 7, line 50), and providing a measurement relating to the surface modification (water droplet roll-off angle; e.g., col. 8, lines 21-29). More importantly, while the Office Action states that previous arguments are not commensurate in scope with the rejection, Kuzowski clearly states that even after "prolonged treatment," there is a limit to the "maximum achievable depth of fibril removal" (col. 8, lines 39-42; *see also*, lines 43-46). Thus, whatever CWST Kuzowski achieves, it is not either a CWST "of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk" of the microporous PTFE membrane, or a CWST "of at least 26 dynes/cm (.26 erg/mm^2) through the thickness" of the microporous PTFE membrane.

In addition to failing to teach microporous PTFE membranes "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid," Sirkar et al. also merely teaches surface modification, e.g., col. 4, lines 50-60, wherein it is emphasized that only "one side" that is modified, not the entire membrane. Each of the specific treatments set forth in this section modifies the surface, not the thickness (or thickness and bulk), of the membrane through one surface to the other. While the Office Action states that the treatment of Sirkar et al. is not only limited to the surface, "but would extend to the depth of penetration of the reagents or the radiation," there is no such teaching or suggestion in Sirkar et al, and, in view of the emphasis in Sirkar et al. to treating "one side," the statement in the Office Action is contradictory to the teachings of the reference.

None of Yokoe et al., Fujimoto et al., and Kawi et al. teach microporous PTFE membranes "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid." The teachings of these references are additionally deficient for the reasons set forth below.

Yokoe et al. fails to even disclose a microporous membrane. In fact, Yokoe et al., being directed to a fuel hose and thus would be impermeable to gasoline, certainly does not lead one to a microporous membrane, i.e., a membrane that could allow gasoline to pass therethrough. Moreover, Yokoe et al., like other references cited in the Office Action, merely teaches surface modification (e.g., col. 4, lines 10-25).

Fujimoto et al. merely teaches coating the pores of a membrane with a hydrophilic fluorine-containing copolymer (e.g., Abstract), and Kawai et al. merely teaches "rendering the fine pores hydrophilic" and depositing various wetting agents on the membrane (e.g., col. 7, lines 19-24). Thus the thickness and bulk of the membranes defined by the first and second surfaces of Fujimoto et al. and Kawai et al. are not modified, and these membranes do not have a CWST "of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk" of the microporous PTFE membrane. Moreover, since Fujimoto et al. and Kawai et al. teach coating the membranes to provide the desired characteristics, they fail to lead one to the invention according to claim 6, reciting, *inter alia*, a membrane free of a coating.

According to the Office Action, the treatment of Fujimoto extends to the bulk and thickness and is not limited to the surface, and Kawai's treatment is not limited to the surface. However, the Office Action has not explained why the treatment of Fujimoto extends though the bulk and thickness, and neither Fujimoto et al. nor Kawai et al. teaches or suggests a microporous PTFE membrane having a CWST of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk of the PTFE membrane, and neither Fujimoto et al. nor Kawai et al. teaches or suggests a microporous PTFE membrane having a CWST of at 26 dynes/cm (.26 erg/mm^2) through the thickness of the PTFE membrane, wherein the PTFE membrane is free of a coating.

The deficiencies of Hirose et al. have been set forth above, e.g., Hirose et al. merely teaches irradiation with UV to provide surface modification, and thus fails to teach or suggest a microporous PTFE membrane "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid, the membrane having a CWST of at least about 40 dynes/cm (.40 erg/mm^2) through the thickness and bulk" of the microporous PTFE membrane (claim 1) or a microporous PTFE membrane "modified by subjecting the microporous PTFE membrane to non-coherent broadband UV irradiation while pores of the membrane are impregnated with a liquid, the membrane having a CWST of at least 26 dynes/cm (.26 erg/mm^2) through the thickness" of the microporous PTFE membrane, "wherein the microporous PTFE membrane is free of a coating" (claim 6).

In summary, there is nothing in the cited references that would lead one of ordinary skill in the art to the subject matter of amended claims 1 and 6. Since the independent claims are allowable for the reasons set forth above, the dependent claims (including newly added claims 35 and 36) are allowable as they depend from the novel and non-obvious independent claims.

Moreover, claim 34, reciting a microporous PTFE membrane free of a coating, is additionally patentable, since, for the reasons set forth above, Hirose et al., Fujimoto et al., and Kawai et al. emphasize the need for a coated membrane.

For the reasons set forth above, reconsideration of the rejections is respectfully requested.

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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